

**AMENDMENTS TO THE CLAIMS**

1. (Original) A process for oxidizing a starting material with an oxidizing agent to obtain a product

which comprises

carrying out the oxidation in a reaction apparatus which has

a bottom region at the lower end,

a top region at the upper end and

a reaction zone between the top region and the bottom region,

maintaining the reaction mixture in the boiling state in the reaction zone,

and

introducing oxidizing agent into the reaction zone in at least two substreams.

2. (Original) A process as claimed in claim 1, wherein the unconverted starting material leaving the reaction zone is recycled into the reaction zone.

3. (Currently amended) A process as claimed in ~~claim 1 or 2~~ claim 1, wherein the starting material used is a linear or cyclic alkane.

4. (Currently amended) A process as claimed in ~~claims 1 to 3~~ claim 1, wherein the oxidizing agent used is an oxidizing agent which is gaseous under the reaction conditions.

5. (Original) A process as claimed in claim 4, wherein the oxidizing agent used is a molecular oxygen-containing gas.

6. (Currently amended) A process as claimed in ~~claims 1 to 5~~ claim 1, wherein the oxidation is carried out in the presence of a catalyst.

7. (Currently amended) A process as claimed in ~~claims 1 to 6~~ claim 1, wherein water is by-produced in the oxidation and this water is withdrawn during the oxidation from the reaction apparatus in the reaction zone or in the top region.
8. (Currently amended) A process as claimed in ~~claims 1 to 7~~ claim 1, which is carried out at a temperature in the range from 10 to 300°C, measured in the reaction zone.
9. (Currently amended) A process as claimed in ~~claims 1 to 8~~ claim 1, wherein the reaction apparatus used is a rectification column.
10. (Currently amended) A process as claimed in ~~claims 1 to 9~~ claim 1, wherein the starting material is oxidized with cycle gas which is enriched with an oxidizing agent.
11. (Currently amended) A process as claimed in ~~claims 1 to 10~~ claim 1, wherein a product-containing reaction mixture is withdrawn below the reaction zone.
12. (Currently amended) A process as claimed in ~~claims 1 to 11~~ claim 1, wherein the higher-boiling reactant selected from the group consisting of oxidizing agent and starting material is fed to the reaction apparatus above the lower-boiling reactant selected from the group consisting of oxidizing agent and starting material.
13. (Currently amended) A process as claimed in ~~claims 1 to 12~~ claim 1, wherein the starting material used is cyclohexane.
14. (Currently amended) A process as claimed in ~~claims 1 to 13~~ claim 1, wherein cyclohexane is oxidized with air, reaction mixture is continuously withdrawn in the bottom region of the reaction apparatus and unconverted cyclohexane and water are continuously removed in the top region, cyclohexane and water are separated by means of a phase separator and the resulting cyclohexane is fed to the top region of the reaction apparatus as reflux.
15. (New) A process as claimed in claim 2, wherein the starting material used is a linear or cyclic alkane and the oxidizing agent used is an oxidizing agent which is gaseous under the reaction conditions.

16. (New) A process as claimed in claim 15, wherein the oxidation is carried out in the presence of a catalyst and water is by-produced in the oxidation and this water is withdrawn during the oxidation from the reaction apparatus in the reaction zone or in the top region.

17. (New) A process as claimed in claim 16, which is carried out at a temperature in the range from 10 to 300°C, measured in the reaction zone and the reaction apparatus used is a rectification column.